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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,348	07/31/2003	Sarah Young	11150/76	3597
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KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004			EXAMINER LIANG, REGINA	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/632,348

Applicant(s)

YOUNG, SARAH

Examiner

Regina Liang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/17/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to amendment filed 5/17/07. Claims 1, 3-25 are pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 3-5, 7-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicant's disclosure is nonenabling as to *how* to make the actuator layer convexly or concavely deformed (claims 3-5). Applicant has failed to disclose at least one manner of making the invention therefore the specification is nonenabling and undue experimentation is required of a person of ordinary skill in the art in order to make and use the invention.

The specification does not provide any description as to *how* the actuator layer is deformable as a function of an electrical field, electromagnetic field or optical signal, e.g., light as claimed (claims 7-10). Therefore, applicant's disclosure is nonenabling as to how an optical

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signal, an electrical field, or an electromagnetic field will cause the deformable geometry as claimed

Claim Rejections - 35 USC § 103

5. Claims 1, 3-13, 15-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palalau (US PAT. NO. 6,373,472) in view of Franzen.

As to claims 1, 20-22, Figs. 1, 2, 9 of Palalau discloses a display device in a steering wheel of a motor vehicle, comprising a touch screen display (28, 32, 36) configured to display information relevant to operation of a motor vehicle.

Palalau does not disclose the touch screen display having an actuator layer, wherein the actuator includes an operating surface geometry deformable as a function of a control signal generated by at least one of a computation device and a logic circuit.

However, Franzen discloses a touch-sensitive display with tactile feedback, comprising a display (electronic paper S2); and an actuator layer (transparent flexible sensor mat S1, see [0022]) arranged on the display and including an operating surface geometry deformable as a function of a control signal generated by at least one of a computation device (control unit μ p, see [0031]-[0034]). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the touch screen of Palalau to have the feature as taught by Franzen such that “a tactile feedback is given directly at the location of the contact”, and “the user receives an intuitive level of feedback which offers the user a greater degree of confidence when handling a touch-sensitive display and minimizes or neutralizes the influence of disruptive noise and lighting conditions” (page 1, lines 3-4 in [0012], lines 8-12 in [0013] of Franzen).

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As to claims 3, 5, Franzen teaches the actuator layer is convexly deformable (see the figure).

As to claim 4, Palalau as modified by Franzen does not explicitly disclose the actuator layer is concavely deformable. It is noted that Franzen teaches the actuator layer is deformable which is controlled by the piezoelectric elements, the “knobs” or bins of the piezoelectric elements are moved up or down would to cause the actuator layer (first layer) to move up or down. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to realize the actuator layer of Franzen have concavely deformable when the “knobs” or bins of the piezoelectric elements are moved down even though Franzen does not explicitly use the phrase “concavely deformable”.

As to claim 6. Franzen teaches the actuator layer is transparent (transparent flexible sensor mat, lines 1-3 in [0022]).

As to claims 7 and 8, Franzen teaches the control signal includes an optical signal or light ([0035]-[0036]).

As to claims 9, 10. Franzen teaches the control signal includes an electrical field or an electromagnetic field ([0020]-[0021]).

As to claim 11, Franzen teaches the actuator layer is statically deformable at least for a duration of the control signal ([0033]).

As to claims 12, 13, Franzen teaches the display is configured to receive entry of user input or an area of the actuator layer is configured to receive the entry of the user input (virtual keypad).

As to claim 15, Franzen teaches the actuator layer is controllable by haptic feedback (tactile feedback).

As to claim 16, Franzen teaches the sensor mat detecting a touch or a press at a point of the first layer and the control unit generates the control signal to deform the actuator, it is inherent that the actuator is deformable by pressure with a force that exceeds a limiting value otherwise the sensor mat can not detect a touch or a press caused by the user.

As to claims 17 and 18, Franzen teaches a computation device (control unit μ p) configured to deform the actuator layer in accordance with the control signal at a point of contact of the actuator layer touched by the user or at the point of contact only in response to an input via the display by the user by touch at the point of contact.

As to claim 19, Franzen teaches the actuator layer is configured to produce an operating element.

As to claim 23, Franzen teaches the operating surface (sensor mat layer S1) geometry is deformable in response to the control signal.

As to claim 24, Franzen teaches a computation device (control unit μ p) configured to generate the control signal, the operative surface geometry deformable in response to the control signal generated by the computation device.

As to claim 25, Franzen teaches the operating surface geometry is deformable in response to an electronic control signal.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Palalau and Franzen applied to claim 1 above, and further in view of Mulligan (US 2004/0017362).

Palalau as modified by Franzen does not disclose the actuator layer includes a sol-gel. However, Mulligan teaches touch sensor device comprising a sol-gel ([0029]). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the actuator layer of Palalau as modified by Franzen to include a sol-gel as taught by Mulligan so as to protect the sensor bars of the touch sensor from damage due to a touch.

Response to Arguments

7. Applicant's arguments filed 5/17/07 have been fully considered but they are not persuasive.

Applicant's remarks that there is enablement regarding claims 3-5 are not persuasive. Applicant's statement that "Since claim 1 is considered to be fully enabled, it is respectfully submitted that no undue experimentation would be necessary to one reasonably skilled in the art of touch screens to make and/or use a display device having a concavely and/or convexly deformable actuator layer, particularly in light of the several exemplary actuator layers mentioned in the Specification. Moreover, since claim 1 is considered fully enabled, it is respectfully submitted that no undue experimentation would be necessary to one reasonably skilled in the art of touch screens to make and/or use a display device in which a control signal includes an optical signal, light, an electrical field or an electromagnetic field, particularly in light of the several exemplary actuators mentioned in the Specification" is misleading and not persuasive. Every single claim is treated individually, although claim 1 is enable it does not mean that all other dependent claims are enabled. The particulars as to how the control signal is sent to the deformable geometry is an important and essential to the invention, without any

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disclosure as to how this is done in the manner as claimed in the dependent claims applicant has failed to disclose at least one manner of making the invention as claimed in the dependent claims and therefore undue experimentation is required of a person of ordinary skill in the art in order to make and use the invention.

The same comments also applies to claims 7-10 since applicant's disclosure is nonenabling as to how an optical signal, an electrical field, or an electromagnetic field will cause the deformable geometry as claimed. The specification is nonenabling since it fails to disclose how are these signals control, applied, etc. as to cause the deformation of the actuator. Again, applicant is relying on others to fill in the gaps as to how this is done, and as such undue experimentation is required of a person of ordinary skill in the art in order to make and use the invention. Therefore, the specification is nonenabling for claims 3- 5, 7-10 and fails to show that applicant had possession of the claimed subject matter; and applicant's remarks are not persuasive.

Applicant's remarks regarding Application Publication No. 2003/0179190 to Franzen are not persuasive. Although the Application Publication No. 2003/0179190 to Franzen is not entitled PCT filing date 9/5/01, but the Publication No. 2003/0179190 has an effective US filing date of 3/18/03 which is earlier than applicant's filing date of 7/31/03. Therefore, Application Publication No. 2003/0179190 to Franzen still constitutes valid prior art against the present application under 35 U.S.C. § 102(e).

In response to applicant's argument on pages 10-11 that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some

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teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, page 1, lines 3-4 in [0012], lines 8-12 in [0013] of Franzen teaches “a tactile feedback is given directly at the location of the contact”, and “the user receives an intuitive level of feedback which offers the user a greater degree of confidence when handling a touch-sensitive display and minimizes or neutralizes the influence of disruptive noise and lighting conditions”.

Applicant’s argument on page 11 in that Franzen teaches away from making such a combination since the touch- sensitive displays described by Franzen are for touchscreen terminals at airport terminals and the touchscreen terminals as provided in Franzen, are stated to be particularly appropriate for visually impaired or blind people, this is not persuasive. Franzen does not exclude the touchscreen device to be used in the motor vehicle. Franzen throughout the disclosure teaches a touch-sensitive display with tactile feedback that can be used by any user (e.g. paragraphs 0001-0004) and discloses that touch screens “is also useful in particular with regard... for visually impaired or blind people” where this use by the visually impaired is one of many uses for the touch screen and is not meant to be the only use of the touch screen.

Therefore, contrary to applicant’s allegations, Franzen does not teach away from the claimed invention and is not limited to use by the visually impaired only. Any one interested in providing touch screen feedback to the user would find Franzen to be pertinent and as such Franzen does not teach away as alleged. Palalau teaches a touch screen display to be used in a motor vehicle; thus, Franzen’s touch screen device is also applicable in the motor vehicle.

Applicant's remarks regarding claim 4 are not persuasive. See the rejection above, the actuator layer of Franzen moves up or down, which causes the actuator layer to be concavely deformable as claimed.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (571) 272-7693. The examiner can normally be reached on Monday-Friday from 8AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Regina Liang
Primary Examiner
Art Unit 2674

7/18/07